Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Canceled).

2. (Previously Presented) A method for handling communication errors in a communication system for distributing video, the method comprising:

initiating transmission of an intended group of packets of a video signal, the intended group of packets including a set of data and error-correcting information for the set of data;

receiving an indication of at least some data, of the set of data, that failed to be correctly received at a receiver among a plurality of receivers;

in response to the indication, retransmitting a second group of packets, the second group of packets comprising less than all data, of the set of data, that failed to be correctly received at the receiver;

wherein less than all data that failed to be correctly received at the receiver is retransmitted in the retransmitting step, and the receiver will be able to obtain the all data, of the set of data, that failed to be correctly received at the receiver by performing forward error correction with the retransmitted second group of packets, once received, and correctly received portions of the intended group of packets, as received from the transmission that was initiated in the initiating step; and

buffering data at a transmission server which transmits the intended group of packets and at each receiver which receives the intended group of packets to support error correction by both retransmission at the transmission server and the forward

error correction at the receiver and to allows for continuous play of the video signal at each receiver.

3. (Previously presented) The method according to claim 2, wherein the communication system comprises a residential broadband network.

4. (Previously Presented)The method according to claim 2, wherein the transmission is a portion of a multicast of the video.

5. (Previously presented) The method according to claim 2, wherein the transmission of the intended group of packets to the receiver is not over the Internet.

6. (Previously presented) The method according to claim 2, wherein the retransmitting is a unicasting.

7. (Previously presented) The method according to claim 2, wherein the indication is received, in the receiving step, via a unicast from the receiver.

8. (Previously presented) The method according to claim 2, further comprising, at the receiver:

sending the indication, wherein the indication indicates less than all data, of the set of data, that failed to be correctly received at the receiver, wherein the retransmitting step includes retransmitting all data indicated in the indication.

9. (Previously presented) The method according to claim 8, wherein the sending step is initiated without waiting for all

packets of the intended group of packets to either arrive at the receiver or be determined as being lost to the receiver.

10. (Previously presented) The method according to claim 9, wherein the retransmitting step is initiated before every packet of the intended group of packets has either arrived at the receiver or been lost to the receiver.

11. (Previously presented) The method according to claim 2, wherein:

some packets of the intended group of packets were not correctly received at the receiver; and

the method further comprises identifying a minimally-sized set of packets, of the some packets that were not correctly received at the receiver, that would enable recovery at the receiver of all data, of the set of data, not correctly received at the receiver.

12. (Previously Presented) The method according to claim 11, wherein:

the intended group of packets includes D intended data packets and R intended redundancy packets and no other data packets or redundancy packets, wherein D and R are positive integers;

M packets of the intended group of packets were not correctly received at the receiver, wherein M is a positive integer greater than R; and

the step of identifying a minimally-sized set of packets comprises identifying a set of M minus R packets, of the M packets that were not correctly received at the receiver.

13. (Previously presented) The method according to claim 12, further comprising, at the receiver:

initiating sending at least a portion of the indication if at least R plus one packets of the intended group of packets were not correctly received at the receiver, even before every packet of the intended group of packets has either arrived at the receiver or been determined as being lost to the receiver.

14. (Previously presented) The method according to claim 2, further comprising, at the receiver:

receiving the retransmitted second group of packets; and

performing erasure correction on the second group of packets and the correctly received portions of the intended group of packets whose transmission was initiated in the initiating step to thereby obtain the all data, of the set of data, that failed to be correctly received at the receiver.

Claims 15-21: Canceled.

22. (Previously Presented) The method according to claim 2, wherein the intended group of packets includes D intended data packets and R intended redundancy packets and no other data packets or redundancy packets, wherein R and D are positive integers, and wherein the receiver has a buffer defined by:

$$L_{hybrid}(i) = \left\lceil \frac{(K_i - 1)\left(\tilde{T}_S + T_{trans} + 2\left(T_i + T_i'\right)\right) + \left(T_i^+ - T_i^-\right)}{T_S} \right\rceil + \left\lceil \frac{T_i^+ - T_i^-}{T_S} \right\rceil + D + R + 1$$

wherein

i represents a receiver i of N receivers $(0 \le i \le N)$ and N is a positive integer and represents the number of receivers in the system;

$$K_i = \left\lceil \frac{\ln p_{max}}{\ln \varepsilon_i} \right\rceil$$

$$\varepsilon_i = \sum_{k=R+1}^{D+R} \binom{D+R}{k} p_i^k (1-p_i)^{R+D-k} \frac{k}{D+R}$$

p_{max} is a maximum tolerable packet-loss probability for the data;

p_i is a pack loss probability experienced by receiver i; and

ε_i is a residual loss probability of a receiver i;

T_{tran} is a transmission time;

$\widetilde{T}_S$ is an inter-packet time; and

T_i^+ and T_i^- are the maximum delay jitters between a receiver i and the server, and $T_i^+ \geq 0$, $T_i^- \leq 0$.

23. (Previously Presented) The method according to claim 22, wherein the transmission server has a buffer defined by:

$$B_{hybrid} = Q_S(D+R)\left\lceil \frac{r_i^{K_i-1}}{DT_S} \right\rceil$$

where

$$r_i^{K_i-1} = \widetilde{r}_i + (T_i + T_i^+) + (K_i - 2)(T_{tran} + 2(T_i + T_i^+))$$

and

$$\widetilde{r}_i = (D+R-1)\widetilde{T}_S + T_{tran} + T_i + T_i^+$$

wherein Qs is a byte size of one packet and Ts is a period of one packet.

24. (Previously Presented) The method according to claim 2, wherein the intended group of packets includes D intended data packets and R intended redundancy packets and no other data

packets or redundancy packets, wherein R and D are positive integers,

wherein a traffic overhead of the system defined as a ratio between traffic at the server incurred in error recovery and traffic at the server for normal delivery of video signals is:

$$H_{hybrid}(R) = \frac{R}{D} + h(R)$$

where

$$h(R) = \frac{1}{D}\sum_{i=0}^{N-1}\sum_{m=R+1}^{D+R}(m-R)h_i\binom{D+R}{m}p_i^m(1-p_i)^{D+R-m}$$
$$= \frac{1}{D}\sum_{i=0}^{N-1}\sum_{m=R+1}^{D+R}\sum_{j=1}^{K_i-1}\binom{D+R}{m}j(m-r)p_i^{m+j-1}(1-p_i)^{D+R-m+1}$$

and

$$h_i = \sum_{j=1}^{K_i-1} j\left(p_i^{j-1}(1-p_i)\right)$$

$$K_i = \left\lceil \frac{\ln p_{max}}{\ln \varepsilon_i} \right\rceil.$$

$$\varepsilon_i = \sum_{k=R+1}^{D+R}\frac{k}{D+R}\Phi_i(k)$$

$$\Phi_i(k) = \sum_{m=k}^{D+R}\binom{m-R}{k-R}\left(p_i^{K_i-1}\right)^{k-R}\left(1-p_i^{K_i-1}\right)^{m-k}\binom{D+R}{m}p_i^m(1-p_i)^{D+R-m}, \quad k \geq R$$

wherein

$H_{hybrid}(R)$ is the traffic overhead of the system,

N is the number of receivers in the system,

i means the receiver i, and $0 \leq i \leq N$,

p_{max} is a maximum tolerable packet-loss probability for the data,

p_i is a pack loss probability experienced by receiver I,

ε_i is a residual loss probability of a receiver I;

the method further comprising selecting the redundancy R to be a value between 0 and

$$R_{FEC} = \min\{R \mid \varepsilon_i \le p_{max}, \forall i\}$$

to minimize $H_{hybrid}(R)$.

25. (Previously Presented) A method for delivering video in a broadband network, comprising:

buffering video data, retransmission data for implementing automatic repeat request and redundancy data for implementing forward error correction at a server and each of a plurality of receivers in the network to support error correction by both retransmission under the automatic repeat request and the forward error correction;

configuring buffer space at the receiver and each receiver, to allow for continuous play of the video received at the receiver; and

performing both retransmission under the automatic repeat request and the forward error correction to correct errors in video data received at each receiver to reduce traffic overhead at the server.

26. (Previously Presented) The method according to claim 25, further comprising:

performing retransmission under the automatic repeat request first upon detecting a transmission error; and

after a retransmission is performed, performing the forward error correction on the retransmitted data.

27. (Previously Presented) The method according to Claim 26, wherein the data transmitted from the server includes D intended data packets and R intended redundancy packets, wherein R and D are positive integers, and wherein the receiver has a buffer defined by:

$$L_{hybrid}(i) = \left\lceil \frac{(K_i - 1)(\tilde{T}_S + T_{tran} + 2(T_i + T_i^+)) + (T_i^+ - T_i^-)}{\tilde{T}_S} \right\rceil + \left\lceil \frac{T_i^+ - T_i^-}{\tilde{T}_S} \right\rceil + D + R + 1$$

wherein

i represents a receiver i of N receivers ($0 \le i \le N$) and N is a positive integer and represents the number of receivers in the system;

$$K_i = \left\lceil \frac{\ln p_{max}}{\ln \varepsilon_i} \right\rceil$$

$$\varepsilon_i = \sum_{k=R+1}^{D+R} \binom{D+R}{k} p_i^k (1 - p_i)^{R+D-k} \frac{k}{D+R}$$

p_{max} is a maximum tolerable packet-loss probability for the data;

p_i is a pack loss probability experienced by receiver i; and

ε_i is a residual loss probability of a receiver i;

T_{tran} is a transmission time;

$\tilde{T}_S$ is an inter-packet time; and

T_i^+ and T_i^- are the maximum delay jitters between a receiver i and the server, and $T_i^+ \geq 0$, $T_i^- \leq 0$.

28. (Previously Presented) The method according to claim 27, wherein the server has a buffer defined by:

$$B_{hybrid} = Q_S(D+R)\left\lceil \frac{r_i^{K_i-1}}{DT_S} \right\rceil$$

where

$$r_i^{K_i-1} = \tilde{r}_i + (T_i + T_i^*) + (K_i - 2)(T_{tran} + 2(T_i + T_i^*))$$

and

$$\tilde{r}_i = (D+R-1)\tilde{T}_S + T_{tran} + T_i + T_i^*$$

wherein Qs is a byte size of one packet and Ts is a period of one packet.

29. (Previously Presented) The method according to claim 25, wherein the data transmitted from the server includes D intended data packets and R intended redundancy packets, wherein R and D are positive integers,

wherein a traffic overhead of the system defined as a ratio between traffic at the server incurred in error recovery and traffic at the server for normal delivery of video signals is:

$$H_{hybrid}(R) = \frac{R}{D} + h(R)$$

where

$$\begin{aligned} h(R) &= \frac{1}{D}\sum_{i=0}^{N-1}\sum_{m=R+1}^{D+R}(m-R)h_i\binom{D+R}{m}p_i^m(1-p_i)^{D+R-m} \\ &= \frac{1}{D}\sum_{i=0}^{N-1}\sum_{m=R+1}^{D+R}\sum_{j=1}^{K_i-1}\binom{D+R}{m}j(m-r)p_i^{m+j-1}(1-p_i)^{D+R-m+1} \end{aligned}$$

and

$$h_i = \sum_{j=1}^{K_i-1} j\left(p_i^{j-1}(1-p_i)\right)$$

$$K_i = \left\lceil \frac{\ln p_{max}}{\ln \varepsilon_i} \right\rceil.$$

$$\varepsilon_i = \sum_{k=R+1}^{D+R} \frac{k}{D+R} \Phi_i(k)$$

$$\Phi_i(k) = \sum_{m=k}^{D+R} \binom{m-R}{k-R} \left(p_i^{K_i-1}\right)^{k-R} \left(1-p_i^{K_i-1}\right)^{m-k} \binom{D+R}{m} p_i^m (1-p_i)^{D+R-m}, \quad k \geq R$$

wherein

$H_{hybrid}(R)$ is the traffic overhead of the system,

N is the number of receivers in the system,

i means the receiver i, and $0 \leq i \leq N$,

p_{max} is a maximum tolerable packet-loss probability for the data,

p_i is a pack loss probability experienced by receiver I,

ε_i is a residual loss probability of a receiver I;

the method further comprising selecting the redundancy R to be a value between 0 and

$$R_{FEC} = \min\{R \mid \varepsilon_i \leq p_{max}, \forall i\}$$

to minimize $H_{hybrid}(R)$.

30. (Previously Presented) The method according to claim 25, further comprising:

upon detecting at least one error in received data, performing the forward error correction on the received data; and

subsequently requesting retransmission under the automatic repeat request when there is at least one error in the received data after the performance of the forward error correction.

31. (Previously Presented) The method according to Claim 30, wherein the data transmitted from the server includes D intended data packets and R intended redundancy packets, wherein R and D are positive integers, and wherein the receiver has a buffer defined by:

$$L_{hybrid}(i)=\left\lceil \frac{(K_i-1)\left((D-1)\tilde{T}_S+T_{tran}+2\left(T_i^{+}+T_i^{-}\right)\right)+\left(T_i^{+}-T_i^{-}\right)}{\tilde{T}_S} \right\rceil+\left\lceil \frac{T_i^{+}-T_i^{-}}{\tilde{T}_S} \right\rceil+D+R+1$$

wherein

i represents a receiver i of N receivers ($0 \le i \le N$) and N is a positive integer and represents the number of receivers in the system;

$$K_i=\left\lceil \frac{\ln p_{max}}{\ln \varepsilon_i} \right\rceil$$

$$\varepsilon_i=\sum_{k=R+1}^{D+R}\binom{D+R}{k}p_i^k(1-p_i)^{R+D-k}\frac{k}{D+R}$$

p_{max} is a maximum tolerable packet-loss probability for the data;

p_i is a pack loss probability experienced by receiver i; and

ε_i is a residual loss probability of a receiver i;

T_{tran} is a transmission time;

$\tilde{T}_S$ is an inter-packet time; and

T_i^{+} and T_i^{-} are the maximum delay jitters between a receiver i and the server, and $T_i^{+} \ge 0$, $T_i^{-} \le 0$.

32. (Previously Presented) The method according to claim 31, wherein the server has a buffer defined by:

$$B_{hybrid} = Q_S(D+R)\left\lceil \frac{r_i^{K_i-1}}{DT_S} \right\rceil$$

where for $n = K_1-1$,

$$r_i^n = \tilde{r}_i + \left(T_i + T_i^-\right) + (n-1)\left(T_i + T_i^+ + (D-1)\tilde{T}_S + T_{tran} + T_i + T_i^+\right)$$

and

$$\tilde{r}_i = (D+R-1)\tilde{T}_S + T_{tran} + T_i + T_i^+$$

wherein Qs is a byte size of one packet and Ts is a period of one packet.